

CLAIMS

- 1) Rigid Polyamide foam having a specific gravity of less than 0.5 g/cc.
- 5 2) A method for the production of Low Density Rigid Polyamide foam wherein the formulation is fed into an extrusion system; the formulation consisting of a polyamide, a functionalized polymer additive, a physical nucleator, and a physical blowing agent. The formulation is first melted and pressurized. The physical blowing agent is then injected and mixed. The
10 homogenous melt is tempered and then pressure is released through a die orifice creating a useful shape.
- 3) The method of claim 2 wherein the amount of physical nucleator is between 0.1 and 3.0 percent by weight.
- 15 4) The method of claim 3 wherein the nucleator is polytetrafluoroethylene.
- 5) The method of claim 2 wherein the physical blowing agent is between 1% and 10%.
- 20 6) The method of claim 5 wherein the physical blowing agent is selected from a group consisting of hydrocarbons, hydrofluorocarbons, hydrochlorocarbons, hydrochlorofluorocarbons, argon, nitrogen, or carbon dioxide.
- 7) The method of claim 6 wherein the physical blowing agent selected is cyclopentane.
- 25 8) The method of claim 2 wherein the functionalized polymer is between 0.1 and 3.0%.
- 9) The method of claim 8 wherein the functionalized polymer chosen is Clariant CESA-EXTEND 1586.
- 30 10) The product of claim 1 wherein the polyamide foam is used to produce useful articles via profile extrusion.

11) The product of claim 1 wherein the polyamide foam is used to produce sheet, which is subsequently formed to produce useful articles.